

WHAT IS CLAIMED IS:

1. An electro-optical device comprising, above a substrate:
 - data lines extending in a first direction;
 - scanning lines extending in a second direction and intersecting the data lines;
 - pixel electrodes and thin film transistors disposed so as to correspond to intersection regions of the data lines and the scanning lines; and
 - storage capacitors electrically connected to the thin film transistors and the pixel electrodes,
 wherein the thin film transistors including semiconductor layers having channel regions which extend in a longitudinal direction and channel adjacent regions which further extend from the channel regions in the longitudinal direction, and
 - the scanning lines including light-shielding parts disposed at sides of the channel regions.
2. The electro-optical device according to Claim 1, further comprising:
 - shielding layers disposed between the data lines and the pixel electrodes.
3. The electro-optical device according to Claim 1, the scanning lines including main-body parts extending in a direction which intersects the longitudinal direction and gate electrodes of the thin film transistors overlapped with the channel regions in plan view, and horizontal protrusions protruding from the main-body parts at the sides of the channel region in the longitudinal direction in plan view and constituting a light-shielding part.
4. The electro-optical device according to Claim 3, each of the main-body parts and each of the horizontal protrusions being integrally formed of the same film.
5. The electro-optical device according to Claim 3, the horizontal protrusions protruding from source and drain sides of the channel regions in plan view.
6. The electro-optical device according to Claim 1, the thin film transistors including semiconductor layers having channel regions which extend in a longitudinal direction,
 - wherein the electro-optical device, further comprising:
 - upper light-shielding films at least covering the channel regions of the thin film transistors from the upper side, and
 - at least a part of each of the upper light-shielding films being formed in a concave shape in a cross section perpendicular to the longitudinal direction of the channel regions as viewed from the channel regions.

7. The electro-optical device according to Claim 1, the thin film transistors including semiconductor layers having channel regions which extend in the first direction, and

the scanning lines including main-line parts including gate electrodes of the thin film transistors which face the channel regions with gate insulating films interposed therebetween and extending in the second direction intersecting the first direction in plan view, and surrounding parts which extend to surround the semiconductor layers from the main-line parts at positions which are separated from the channel regions by a predetermined distance in the second direction in plan view.

8. The electro-optical device according to Claim 7, the scanning lines further including vertical protrusions which protrude from the surrounding parts in a vertical direction to the substrate.

9. The electro-optical device according to Claim 1, the thin film transistors including semiconductor layers having channel regions which extend in the first direction, and

the scanning lines including main-line parts including the gate electrodes of the thin film transistors which face the channel regions with the gate insulating films interposed therebetween and extending in the second direction intersecting the first direction in plan view, and vertical protrusions which protrude downwardly from the main-line parts at positions which are separated from the channel regions by a predetermined distance in the second direction in plan view.

10. An electro-optical device according to Claim 9, further comprising:
above the substrate, lower light-shielding films covering at least the channel regions from the lower sides thereof,

the vertical protrusions contacting the lower light-shielding films at front ends.

11. The electro-optical device according to Claim 9, further comprising:
above the substrate, lower light-shielding films covering at least the channel regions from the lower sides thereof,

the vertical protrusions not contacting the lower light-shielding films at the front ends.

12. The electro-optical device according to Claim 1, the thin film transistors including semiconductor layers having channel regions which extend in the first direction, the scanning lines including the main-line parts including the gate electrodes of the thin film transistors which face the channel regions with the gate insulating films

interposed therebetween and extending in the second direction intersecting the first direction in plan view, and

the main-line parts being disposed inside grooves engraved in the substrate and including inside-groove parts which cover at least a part of the channel regions from the sides thereof.

13. The electro-optical device according to Claim 1, the scanning lines including light-shielding films containing metal or alloy.

14. The electro-optical device according to Claim 1, one of a pair of electrodes constituting each of the storage capacitors constituting a part of a capacitive line formed along the second direction, and

the capacitive line being made of a multi-layered film including a low-resistive film.

15. The electro-optical device according to Claim 1, the pixel electrodes being electrically connected to other layers of a laminated structure through a titanium simple substance, a tungsten simple substance, a compound of titanium and tungsten, or a stack thereof.

16. The electro-optical device according to Claim 15, the laminated structure further including interlayer insulating films provided as bases of the pixel electrodes, contact holes being formed in the interlayer insulating films to electrically connect the pixel electrodes thereto, and

films being formed as at least inside surfaces of the contact holes and lower layers of the pixel electrodes, the films including a titanium simple substance, a tungsten simple substance, a compound of titanium or tungsten, or a stack thereof.

17. The electro-optical device according to Claim 1, wherein the data lines being formed of the same film as one of a pair of electrodes which constitute each of the storage capacitors.

18. The electro-optical device according to Claim 2, further comprising: relay layers as a part of a laminated structure, the relay layers electrically connecting each of the pixel electrodes to one of a pair of electrodes which constitute each of the storage capacitors.

19. The electro-optical device according to Claim 18, the shielding layers being formed of the same films as the relay layers.

20. The electro-optical device according to Claim 2, at least some elements of the scanning lines, the data lines, a pair of electrodes constituting each of the storage capacitors, and the shielding layers being made of light-shielding material,
at least some elements thereof constitute an embedded light-shielding film in the laminated structure.

21. The electro-optical device according to Claim 1, further comprising:
the light-shielding films disposed in the light-shielding regions,
the light-shielding films including metal layers which contain a high-melting-point metal simple substance or metal compounds, and barrier layers which are made of a high-melting-point and oxygen-free metal or metal compounds laminated on at least one surface of the metal layers.

22. The electro-optical device according to Claim 21, the metal layers of the light-shielding films including light-shielding metal layers and light-absorption metal layers,
the light-absorption metal layers facing the thin film transistors.

23. The electro-optical device according to Claim 21, each of the metal layers being interposed between the barrier layers.

24. The electro-optical device according to Claim 21, the light-shielding films being set at fixed potentials.

25. An electro-optical device comprising, above a substrate:
data lines extending in a first direction;
scanning lines extending in a second direction and intersecting the data lines;
pixel electrodes and thin film transistors disposed so as to correspond to intersection regions of the data lines and the scanning lines;
storage capacitors electrically connected to the thin film transistors and the pixel electrodes; and
light-shielding films disposed between the data lines and the pixel electrodes,
the thin film transistors including semiconductor layers having channel regions which extend in a longitudinal direction and channel adjacent regions which further extend from the channel regions in the longitudinal direction, and
the scanning lines including light-shielding parts disposed at sides of the channel regions.

26. An electronic apparatus comprising an electro-optical device comprising,
above a substrate:

data lines extending in a first direction;

scanning lines extending in a second direction and intersecting the data lines;
pixel electrodes and thin film transistors disposed so as to correspond to
intersection regions of the data lines and the scanning lines; and
storage capacitors electrically connected to the thin film transistors and the
pixel electrodes,
the thin film transistors including semiconductor layers having channel regions
which extend in a longitudinal direction and channel adjacent regions which further extend
from the channel regions in the longitudinal direction, and
the scanning lines including light-shielding parts disposed at sides of the
channel regions.